Defined Benefit Program

Actuary's Certification Letter

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Teachers' Retirement Board
California State Teachers' Retirement System

RE: California State Teachers' Retirement System

Dear Members of the Board:

The actuarial valuation report for the California State Teachers' Retirement System completed as of June 30, 1998, reveals that the Teachers' Retirement System is an actuarially sound system based on current actuarial assumptions. We have determined that the projected income stream from the contributions mandated by the Education Code will be sufficient to pay the Normal Cost. The Unfunded Actuarial Obligation has been eliminated as of the June 30, 1998 valuation.

Actuarial valuations are normally performed every two years, as of June 30 of each odd-numbered year. However, a special valuation was prepared as of June 30, 1998. The previous valuation, as of June 30, 1997, indicated that the Unfunded Actuarial Obligation could be funded over a period of 3 years.

The valuation was based on financial and employee data received from the System and from the Report of Independent Accountants prepared by PriceWaterhouseCoopers. Although we did not audit this data, we compared the data to that of prior years and tested for reasonableness. Based on these tests, we believe the data to be sufficiently accurate for purposes of our calculations.

Information presented in the following supporting tables included in this Actuarial Section of the 1999 Comprehensive Annual Financial Report is based on information found in our June 30, 1998 actuarial valuation report:

– Post-retirement mortality
– Probabilities of retirement
– Probabilities of withdrawal from active service
– Assumption for pay increases
– Economic assumptions
– Mortality assumptions
– Termination from disability
– Service retirement rates
– Disability rates
– Withdrawal rates
– Probability of refund
– Promotional salary increases
– Analysis of financial experience

In addition, data for the fiscal year ending June 30, 1998 presented in Schedule 1, and the summary of actuarial methods and assumptions in Schedule 2 of the Financial Section, are based on information found in our valuation report.

Actuarial methods and assumptions have been selected by the Teachers' Retirement Board. The Board has sole authority to determine the actuarial assumptions used for the Plan. In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation, and are internally consistent and reflect reasonable expectations. We also believe the assumptions and actuarial methods meet the requirements of Governmental Accounting Standards Board Statement No. 25. Note that the results of future valuations will differ from the June 30, 1998 results to the extent that actual experience differs from that projected by the assumptions.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board of the American Academy of Actuaries.

The undersigned are independent actuaries. Both are Fellows of the Society of Actuaries, Enrolled Actuaries, and Members of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems.

In conclusion, the California State Teachers' Retirement System is an actuarially sound system based on current actuarial assumptions.

Respectfully submitted,

W. Michael Carter, FSA, EA, MAAA
Vice President

Gene Wickes, FSA, EA, MAAA
Consulting Actuary

Summary of Actuarial Assumptions and Methods

CalSTRS, through its consulting actuary, performs an experience study every four years to determine appropriate demographic and economic assumptions. These assumptions are then applied every two years when the consulting actuary performs an actuarial valuation to monitor the funding status of the Defined Benefit Program. The most recent experience study was completed as of June 30, 1995. The study was adopted by the Teachers' Retirement Board in April 1996. The most recent actuarial valuation was completed as of June 30, 1998, and adopted by the Teachers' Retirement Board in April 1999. The June 30, 1998 valuation was performed one year after the regularly scheduled June 30, 1997 valuation to allow an early determination of the funding status of the program as provided in the 1998 Budget Act.

Following are the assumptions adopted by the Teachers' Retirement Board for this program.

- Investment return rate is 8.00 percent.
- Method used to value program assets for actuarial valuation purposes: Expected actuarial value adjusted for 25 percent of the difference between actual market value and expected actuarial value.
- Assumption for general wage increase because of inflation is 5.5 percent of which 4.5 percent is due to inflation and 1.0 percent is due to expected gains in productivity.
- The actuarial cost method used by the program is the entry age normal actuarial cost method, with actuarial gains and losses amortized over the remaining period required for the amortization of any unfunded actuarial obligation.
- The extent to which benefits are expected to increase as a result of cost-of-living type adjustments is set in statute at a 2 percent simple increase provided annually beginning on September 1 following the first anniversary of the effective date of the allowance. Since 1971, this increase is applied to all eligible continuing allowances and is a provision of Part 13 of the Education Code, which governs the program.
- The last study of the program's actual experience was completed by the consulting actuary on March 25, 1996 (as of June 30, 1995) and adopted by the Teachers' Retirement Board April 11, 1996. All assumptions used in subsequent actuarial valuations were provided by that experience study. The most recent actuarial valuation of the program was completed March 17, 1999 (as of June 30, 1998) and adopted by the Teachers' Retirement Board April 8, 1999.

Table 1 | **Post retirement mortality table for sample ages**

Age	Male	Female
50	0.28 %	0.15 %
55	0.48	0.23
60	0.71	0.38
65	1.11	0.64
70	1.98	1.09
75	3.34	2.11
80	5.48	3.85
85	8.93	6.38
90	13.39	10.14
95	19.05	16.51
	1983 GAM (-3)	**1983 GAM (-1)**

Table 2 | **Probabilities of retirement for sample ages**

Age	Male	Female
55	6.3 %	6.8 %
60	26.1	19.8
65	28.3	24.6
70	100.0	100.0

Table 3 | **Probabilities of withdrawal from active service before age and service retirement for sample ages**

	All	Entry Ages-Female			
Duration	Males	27	32	37	42
1	14.8 %	14.8 %	14.8 %	14.8 %	14.8 %
2	8.8	8.8	8.6	7.7	6.6
3	6.8	7.7	6.8	5.4	5.1
4	5.8	6.8	5.8	4.4	4.3
5	5.0	5.9	5.0	3.8	3.6
10	2.5	2.5	2.2	1.9	1.6
15	1.3	1.2	1.2	1.2	
20	0.8	0.9	0.9		
25	0.5	0.8			

Table 4 **Assumption for pay increases due to promotions and longevity for sample ages** (exclusive of the assumed general wage increase, which includes inflation)

Duration	Entry Ages 27	32	37	42
Male				
1	8.0 %	9.5 %	9.8 %	8.9 %
10	3.6	2.6	1.9	2.0
20	1.1	0.7	0.7	0.4
30	0.7	0.6	0.7	0.4
Female				
1	7.2 %	7.7 %	8.5 %	5.4 %
10	3.1	2.5	2.7	2.6
20	0.7	0.6	0.9	1.0
30	0.3	0.4	0.5	0.6

Table 5 **Economic assumptions**

Consumer Price Inflation	4.50 %
Investment Yield	8.00
Wage Inflation	5.50
Interest on Member Accounts	6.00
Growth in Active Membership	0.00
Administrative Expenses	0.25 *

*Percent of payroll

Table 6 **Mortality assumptions**

Retired Members	-Male	1983 GAM-M (-3)
	-Female	1983 GAM-F (-1)
Active Members	-Male	1983 GAM-M (-5)
	-Female	1983 GAM-F (-3)
Beneficiaries	-Male	1983 GAM-M (-3)
	-Female	1983 GAM-F (-1)
Pre-1972 Disabilities	-Male	1951 GAM-M (-1)
	-Female	1951 GAM-F (-8)

Table 7 **Termination from disability**

Male	1983 GAM-M (Minimum 3.5%)
Female	1983 GAM-F (Minimum 2.2%)

Discussion of recent changes in:

The nature of the program—The nature of this program has not materially changed since the last experience study or valuation was completed.

Actuarial assumptions—The economic and demographic actuarial assumptions for this program have not changed since the last experience study or valuation was completed. The indicated assumptions were used to complete the last three valuations for this program.

Because the economic assumptions were not changed for the most recent actuarial valuation, as of June 30, 1998, there was no net change to the unfunded actuarial obligation based on these assumptions.

Table 8 **Service retirement** (sample ages)

Male	
55	6.3 %
60	26.1
65	28.3
70	100.0
Number	11,015
Female	
55	6.8 %
60	19.8
65	24.6
70	100.0
Number	15,330

Table 9 | **Disability**

Number of Disabilities		
Coverage A		
Male		283
Female		555
Coverage B		
Male		239
Female		560
Rate of Disability (sample ages)		
Coverage A		
Male	32	0.04 %
	42	0.09
	52	0.18
Female	32	0.05
	42	0.10
	52	0.20
Coverage B		
Entry age under 40		
Male	32	0.10 %
	42	0.14
	52	0.21
	62	0.42
Female	32	0.03
	42	0.10
	52	0.26
	62	0.41
Entry age 42		
Male	52	0.40 %
	57	0.50
	62	0.70
Female	52	0.40
	57	0.50
	62	0.70
Entry age 47 & over		
Male	52	0.65 %
	57	0.95
	62	1.25
Female	52	0.50
	57	0.70
	62	1.10

Future service credits are determined by using individual records and projecting future service credits for each member based on that member's actual service credit earned in the prior year.

Because the demographic assumptions were not changed for the most recent actuarial valuation, as of June 30, 1998, there was no net change to the unfunded actuarial obligation based on those assumptions.

Actuarial methods

Actuarial Cost Method	Entry Age Normal Actuarial Cost Method
Asset Valuation Method	Expected Value with 25 percent adjustment to Market Value

Because the actuarial methods were not changed for the most recent actuarial valuation, as of June 30, 1998, there was no net change to the unfunded actuarial obligation based on these assumptions.

CalSTRS contracts for all actuarial services. The current contractor, Watson Wyatt Worldwide, has been the program's actuary since October 1, 1997.

There are no other specific assumptions that have a material impact on valuation results for this program.

The data displayed in Table 12 (on page 63) is as of June 30 of the specified year. Other information, specifically annual payroll amounts, reported in the financial section of this report will generally not be consistent. The reason for this is that the financial data reflects payroll for all individuals who were active during the year, while Table 12 only includes those individuals who are active as of June 30. It does not include those individuals who were active at some point during the year but not as of June 30.

Amounts provided in Table 13 (on page 63) represent the status of the population as of June 30 of the indicated year. The information provided in the Removed From Rolls and Rolls End of Year columns include the application of the annual post-retirement 2 percent not-compounded cost-of-living adjustment.

The data provided for each year end in Table 13 is a snapshot of the population taken following year-end closing for the indicated period. It is likely adjustments will be made subsequent to this closing. No attempt is made to update the data in Table 13 for these adjustments.

Table 10 **Withdrawal all terminations**

Total Number of Terminations

Male	10,824
Female	26,595

Rates of Termination by Sample Durations of Membership and Sample Entry Ages

	Sample Entry Ages			
Duration	27	32	37	42
Male				
1	14.8 %	14.8 %	14.8 %	14.8 %
2	8.8	8.8	8.8	8.8
3	6.8	6.8	6.8	6.8
4	5.8	5.8	5.8	5.8
5	5.0	5.0	5.0	5.0
10	2.5	2.5	2.5	2.5
15	1.3	1.3	1.3	
20	0.8	0.8		
25	0.5			
Female				
1	14.8 %	14.8 %	14.8 %	14.8 %
2	8.8	8.6	7.7	6.6
3	7.7	6.8	5.4	5.1
4	6.8	5.8	4.4	4.3
5	5.9	5.0	3.8	3.6
10	2.5	2.2	1.9	1.6
15	1.2	1.2	1.2	
20	0.9	0.9		
25	0.8			

Probability of Refund by Sample Durations of Membership and Sample Entry Ages

	Sample Entry Ages			
Duration	27	32	37	42
Male				
Under 5	100 %	100 %	100 %	100 %
10	60	50	50	45
15	50	45	45	
20	40	40		
25	30			
Female				
Under 5	100 %	100 %	100 %	100 %
10	40	40	40	35
15	35	35	35	
20	30	25		
25	20			

Because of the potential for post-closing adjustments that are not updated in Table 13, and for post-retirement adjustments that are included in the individual accounts rather than separately maintained, any update of a prior end of year total using additions and deletions from the next year most likely will not equal the total provided for the next year.

An experience analysis was performed for the program in 1991 and again in 1995. As a result of the performance of these studies, minor changes were made to the actuarial assumptions and to the funding methods. No significant plan changes have taken place during the period of time depicted in Table 14 (on page 63).

The most recent actuarial valuation of the system (as of June 30, 1998) determined there is no longer an unfunded actuarial obligation for this program. The prior actuarial valuation (as of June 30, 1997) stated amortization of the unfunded actuarial obligation would occur in three years. Theoretically, the June 30, 1998 actuarial valuation should have shown a remaining amortization period of two years. The elimination of the unfunded actuarial obligation is mainly attributable to favorable investment returns ($3.545 billion) over the period since the prior actuarial valuation. Other contributing factors were (1) actual contributions that were higher than were assumed ($0.704 billion) and (2) lower than expected liabilities ($0.119 billion).

Table 11 **Promotional salary increases** (assumption for salaries due to promotions and longevity, exclusive of the assumed general wage increase)

	Sample Entry Ages			
Duration	27	32	37	42
Male				
1	8.0 %	9.5 %	9.8 %	8.9 %
10	3.6	2.6	1.9	2.0
20	1.1	0.7	0.7	0.4
30	0.7	0.6	0.7	0.4
Female				
1	7.2 %	7.7 %	8.5 %	5.4 %
10	3.1	2.5	2.7	2.6
20	0.7	0.6	0.9	1.0
30	0.3	0.4	0.5	0.6

With the exception of the actuarial valuation performed as of June 30, 1998, actuarial valuations are performed every two years to analyze the sufficiency of the statutory contributions to meet the current and future obligations of the program. By using the actuarial methods and assumptions adopted by the Teachers' Retirement Board, the actuarial valuation provides the best estimate of the program's long-term financing.

Comparing the unfunded actuarial obligation as of two valuation dates does not provide enough information to determine if there were actuarial gains or losses. The correct comparison is between the unfunded actuarial obligation on the valuation date and the expected unfunded actuarial obligation projected from the prior valuation date using the actuarial assumptions in effect for the period of comparison.

Table 12 **Schedule of active member valuation data**

Date (As of June 30)	Number	Annual Payroll	Annual Average Pay	% Increase In Average Pay
1994	319,176	$11,978,064,140	$37,528	0.5%
1995	327,513	12,411,264,262	37,895	1.0
1996	336,725	12,994,673,531	38,591	1.8
1997	364,000	14,371,068,403	39,481	2.3
1998	385,530	15,725,658,541	40,790	3.3
1999	402,220	17,007,886,951	42,285	3.7

Table 13 **Schedule of retired members and beneficiaries added to and removed from rolls** ($ thousands)

	Added to Rolls		Removed from Rolls		Rolls–End of Year			
Date (as of June 30)	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
1994	7,787	$186,556	4,395	$48,919	141,873	$2,256,581	8.8 %	$15,906
1995	7,863	185,022	4,351	51,817	146,805	2,438,513	8.1	16,611
1996	7,737	186,916	4,642	55,635	150,805	2,621,422	7.5	17,383
1997	6,672	163,744	4,717	59,864	153,639	2,781,406	6.1	18,104
1998	7,996	206,368	4,908	64,640	157,747	2,985,017	7.3	18,923
1999	7,874	236,923	5,105	69,463	161,457	3,220,227	7.9	19,945

Table 14 **Solvency test** ($ millions)

	Aggregate Accrued Liabilities For				Funding of Liabilities		
*Valuation Date (as of June 30)	(1) Active Member Contributions On Deposit	(2) Future Benefits to Benefit Recipients	(3) Service Already Rendered by Active Members	Actuarial Value of Assets	(1)	(2)	(3)
1993	$12,831	$20,930	$19,820	$45,212	100.0%	100.0%	57.8%
1995	14,478	25,416	23,497	55,207	100.0%	100.0%	65.2%
1997	17,041	29,127	23,684	67,980	100.0%	100.0%	92.1%
1998	18,451	31,158	24,625	77,290	100.0%	100.0%	112.4%

*No actuarial report is prepared in even-numbered years, except for the June 30, 1998 report.
No estimation using actuarial methodology is made in years between valuations.

Table 15 (below) shows the unfunded actuarial obligation and the elements to project that figure forward: the normal cost, less contributions assumed to be collected, plus a charge for interest at the assumed rate.

Actuarial gains reduce the unfunded actuarial obligation as of the valuation date, and actuarial losses increase the unfunded actuarial obligation. Most actuarial gains and losses are a result of short-term fluctuations in experience or changes in actuarial assumptions. Because of the long-term nature of actuarial assumptions, future patterns of emerging experience may offset these short-term fluctuations.

Independent actuarial review

Actuarial services for the California State Teachers' Retirement System are provided, under contract, by a qualified independent actuarial firm. CalSTRS does not retain an actuary on-staff.

The work performed for CalSTRS by the independent actuarial firm is subject to periodic audit by the Bureau of State Audits. Also, through the competitive acquisition process, the work of a prior actuary will be verified in a subsequent actuarial valuation performed by a new contract actuary. Should the same actuarial firm continue for a period of 10 years, provision is made for an independent review of that firm's work through an actuarial audit completed by another firm. These audit services are acquired using the competitive acquisition process.

Past actuarial work performed for CalSTRS has been found to be in compliance with actuarial standards of practice, and to be of the highest quality.

The current actuarial consultant replaced the prior consultant on October 1, 1997 as a result of the competitive acquisition process. The first major task for the new consultant was to recreate the result of the prior actuary's actuarial valuation as of June 30, 1995 to establish a baseline. Recreating the prior result provided an audit of that result and allowed the opportunity for the new consultant to ensure they understood the provisions of the program and agreed with the in-place assumptions. The result of this effort validated the previous actuarial valuation.

Table 15 **Analysis of financial experience** (gains and losses in unfunded actuarial obligation resulting from differences between assumed and actual experience) ($ Billions)

	Actuarial Valuation as of June 30	
	1998	1997
Unfunded Actuarial Obligation at June 30:	$1.872 (1997)	$8.184 (1995)
Expected Increases & Decreases		
Normal Cost	2.293	4.313
Contributions	(2.975)	(5.529)
Interest	0.122	1.264
Expected net Increases & Decreases	$(0.560)	$0.048
Expected Unfunded Actuarial Obligation at June 30:	$1.312 (1998)	$8.232 (1997)
Actuarial Gains & (Losses)		
Change in Methods	0	1.075
Change in Economic Assumptions	0	0
Change in Demographic Assumptions	0	0
Investment Return Assumption	3.545	3.239
Wage Increase Assumption	0	0
Contribution Assumption	0.704	0.354
Net Change Other Sources	0.119	1.692
Net Actuarial (Gains) & Losses	$4.368	$(6.360)
Unfunded Actuarial Obligation at June 30:	$(3.056) (1998)	$1.872 (1997)

Summary of Defined Benefit Program Provisions

(considered in the June 30, 1998 actuarial valuation)

Service Retirement

Eligibility
Age 60 with five years of credited California service.

Benefit Formula
2 percent of final compensation for each year of credited service at age 60. (Final compensation is the average salary earnable for the highest three consecutive years of credited California service.)

Exceptions:

1) For an eligible classroom teacher who retires after June 30, 1990, final compensation may be the highest annual compensation earnable during any period of 12 consecutive months while a member of the plan. This provision only applies to a qualified classroom teacher, as defined, who is employed by an employer who has entered into a written agreement with the exclusive employee representative to make this provision applicable.
2) Effective January 1, 1994, final compensation may be the highest average annual compensation earnable during any three nonconsecutive years (one year is a period of 12 consecutive months) of membership in the plan. This alternative is available only to a member whose salary has been reduced because of a reduction in school funds.

Early Retirement

Eligibility
Age 55 with five years credited California service. A 1/2 percent reduction is made in the normal retirement allowance for each full month or partial month the member is younger than age 60.

30 and Out
Age 50 with 30 years of credited California service. The standard (1/2 percent) early retirement reduction is applied from 60 to age 55 and a 1/4 percent reduction is made for each full or partial month the member is younger than age 55.

Retirement After Normal Retirement Age

Members continue to earn additional service credit after age 60, but there is no increase in the 2 percent benefit factor.

Pre-Retirement Election of an Option

Any member who is eligible for service retirement may make a pre-retirement election to receive a modified joint and survivor allowance payable at retirement in place of the unmodified allowance. If the member dies prior to retirement, the option beneficiary will receive a lifetime allowance based on the option selected. This election is available for those members who, at age 55, do not wish to retire, but want to ensure a monthly lifetime income to a beneficiary in the event death occurs prior to retirement. However, the pre-retirement election makes the member ineligible for a family or survivor benefit allowance unless the election is canceled prior to death.

Post-Retirement Adjustment

Benefit Improvement Factor
There is a 2 percent simple increase on each September 1 following the first anniversary of the effective date of the allowance (the date on which the monthly allowance began to accrue). The annual 2 percent increase is applied to all continuing allowances.

Disability Allowance—Coverage A

Eligibility
Age Limit: Under age 60.
Service Credit: Minimum of five years.
Employment Status: May apply for disability allowance while still employed.

Benefit Formula
Allowance
50 percent of final compensation

or

5 percent of final compensation for each year of service credit if over age 45 with less than 10 years of service credit.

plus

Children's Benefits
10 percent of final compensation for each eligible dependent child, up to a maximum of 40 percent of final compensation. The increment for each eligible child continues until the child attains age 22.

Pre-Retirement Election of an Option

Any member receiving a disability allowance who is eligible to retire may make a pre-retirement election to receive a modified joint and survivor allowance payable at retirement in place of the unmodified allowance. If the member dies prior to retirement, the option beneficiary will receive a lifetime allowance based on the option selected. The pre-retirement election makes the member's survivor ineligible for the family allowance unless the election is canceled prior to the member's death.

Earnings Limit

In a single month, the disability allowance (less amounts payable for children) plus employment earnings may not exceed 100 percent of indexed final compensation.

or

For a six-month period, average earnings may not exceed 66-2/3 percent of indexed final compensation.

Conversion To Service Retirement

Allowance is payable for duration of disability or until conversion to a service retirement allowance at normal retirement age. A member's allowance is based on the projected final compensation and projected service to normal retirement age; however, the service retirement allowance may not exceed the terminated disability allowance.

Death Benefit

A $5,493 lump-sum death payment is payable to the designated beneficiary upon the death of the disabled member. The amount of the death payment may be adjusted by the Teachers' Retirement Board following each actuarial valuation based on changes to the All Urban California Consumer Price Index.

plus

If the member has not elected a pre-retirement option, a family allowance is payable to the surviving spouse who has children eligible for a children's benefit.

or

If there are no eligible children, the spouse may elect to take a lump-sum refund of the contributions and interest remaining in the member's account or receive an Option 3 beneficiary allowance at age 60, or immediately with a reduction based on the member's and spouse's ages at the time the benefit begins.

Disability Retirement — Coverage B

Eligibility
Age Limit: None.
Service Credit: Minimum of five years.
Employment Status: May apply for disability retirement while still employed.

Benefit Formula
Allowance
50 percent of final compensation regardless of age and service credit.

plus

Children's Benefits
10 percent of final compensation for each eligible dependent child, up to a maximum of 40 percent of final compensation. The increment for each eligible child continues until the child attains age 21, regardless of student, marital or employment status.

Option Election

May elect a joint and survivor option upon application for a disability retirement.

Earnings Limit

There is a calendar year limitation on earnings from all employment. The allowance of a member retired for disability will be reduced by the amount of any earnings in excess of the limitation. Effective July 1, 1998, the limit was increased to $18,750. The initial earnings limitation of $15,000 is adjusted each July 1 by 100 percent of the annual increase in the All Urban California Consumer Price Index, using December 1989 as the base.

Conversion to Service Retirement

No conversion; allowance is payable for the duration of the disability.

Death Benefit
A $5,493 lump-sum death payment is payable to the designated beneficiary upon the death of the disabled member. The amount of the death payment may be adjusted by the Teachers' Retirement Board following each actuarial valuation based on changes to the All Urban California Consumer Price Index.

plus

If an option was selected at the time of disability retirement, a lifetime allowance is payable to the option beneficiary.

or

If no option was selected, a lump-sum refund of any remaining contributions and interest in the member's account is payable to the eligible beneficiary.

Family Allowance—Coverage A

Eligibility
Status: Member was actively employed or receiving a disability allowance at the time of death and had not elected a pre-retirement election of an option.
Service Credit: One or more years.

Lump-Sum Death Payment
A $5,493 lump-sum death payment is payable to the designated beneficiary upon the death of the member. The amount of the death payment may be adjusted by the Teachers' Retirement Board following each actuarial valuation based on changes to the All Urban California Consumer Price Index.

Basic Benefit
When there are eligible children, a family allowance will be paid. If there are no eligible children, the spouse may elect to receive an Option 3 beneficiary allowance at age 60 or immediately with a reduction based on the member's and spouse's ages at the time the benefit begins or take a lump-sum refund of the remaining contributions and interest in the member's account.

Surviving Spouse

Eligibility
Married to the member for at least one year on the date of death.

Allowance
The surviving spouse with eligible children would receive 40 percent of the member's final compensation for as long as there is at least one eligible child.

An additional 10 percent of final compensation is payable for each eligible child, up to a maximum benefit of 50 percent for the children's increment.

To be eligible, dependent children must be unmarried and under age 22.

When there are no eligible children, the spouse may elect to receive an Option 3 beneficiary allowance or take a lump-sum refund of the remaining contributions and interest in the member's account.

If there is no surviving spouse, an allowance of 10 percent of the member's final compensation is payable to each eligible child up to a maximum of 50 percent of final compensation.

If there is neither a surviving spouse nor a dependent child, the member's dependent parents may elect to receive an Option 3 beneficiary allowance at age 60 or over, or take a lump-sum refund of the remaining contributions and interest in the member's account.

Contributions and Interest
If there is no surviving spouse, eligible children, or dependent parent, the contributions and interest are paid to the designated beneficiary.

Death Benefit for Retired Members
Designated beneficiaries of CalSTRS retired members receive a $5,493 lump-sum death payment. The amount of the death payment may be adjusted by the Teachers' Retirement Board following each actuarial valuation based on changes to the All Urban California Consumer Price Index.

Survivor Benefits—Coverage B

Eligibility
Status: Member was actively employed at the time of death and had not elected a pre-retirement election of an option.
Service Credit: One or more years.

Lump-Sum Death Payment

A $21,974 lump-sum death payment is payable to the designated beneficiary if the member had one or more years of credited service. The amount of the death payment may be adjusted by the Teachers' Retirement Board following each actuarial valuation based on changes to the All Urban California Consumer Price Index.

Basic Benefit

The surviving spouse may elect to receive a monthly allowance or take a lump-sum of the contributions and interest in the member's account.

Surviving Spouse

Eligibility
Married to the member for at least one year on the date of death.

Allowance
If the surviving spouse elects not to take a lump-sum refund of the contributions and interest in the member's account, the surviving spouse would receive one half of the member's Option 3 allowance, beginning on the member's 60th birthday, or immediately with a reduction based on the member's and spouse's age at the time the benefit begins. There is no dependent child requirement.

If the surviving spouse elects a monthly allowance, each eligible dependent child would receive 10 percent of the member's final compensation with a maximum benefit of 50 percent. The benefit is dependent upon the spouse electing a monthly allowance.

To be eligible, dependent children must be under age 21. Student, marital or employment status will not terminate the benefit.

If there is no surviving spouse, no children's benefits are payable.

Contributions and Interest

If there is no surviving spouse, the contributions and interest are paid to the member's designated beneficiary.

Death Benefit for Retired Members

Designated beneficiaries of CalSTRS retired members receive a $5,493 lump-sum death payment. The amount of the death payment may be adjusted by the Teachers' Retirement Board following each actuarial valuation based on changes to the All Urban California Consumer Price Index.

Termination of Membership

After termination of employment, a member may request a refund of contributions and interest as credited to the member's account to date of withdrawal.

A refund terminates membership in and all rights to future benefits from the program.

Funding

Members Contribution: Eight percent of salary.

Employers Contribution: Eight percent of the total of the salaries on which the members contributions are based

plus

0.25 percent of salary to pay costs related to unused sick leave service credit (effective July 1, 1986).

plus

0.307 percent of salary covers the cost of ad hoc benefit adjustments (effective January 1, 1980).

State Contribution: The state's quarterly contribution to CalSTRS, commencing October 1, 1991, is set at 1.075 percent of the total of the salaries of the prior calendar year upon which members' contributions are based. This rate will continue until the unfunded obligation is eliminated and then will be reduced to the amount required to cover the normal cost of the benefits in effect on July 1, 1990.

Changes in Defined Benefit Program Provisions

Since the last annual financial report, program amendments have been made that would affect the next actuarial valuation. The amendments described below were effective January 1, 1999, and, therefore, not considered for the June 30, 1998 actuarial valuation.

Age Factor
The age factor for members who retire after the age of 60 is increased for each quarter year of age from 2 percent at age 60 to 2.4 percent at age 63 or older.

Career Bonus
Members who retire with at least 30 years of earned service credit have an additional 0.2 percent (two-tenths of 1 percent) added to the age factor up to a maximum age factor of 2.4 percent. The 30 years of service credit to qualify for the career bonus does not include credit from unused sick leave or Golden Handshake.

Unused Sick Leave
All CalSTRS members who retire on or after January 1, 1999, receive service credit for unused sick leave at retirement.

Funding
Members Contribution: Eight percent of creditable compensation.

Employers Contribution: Eight percent of the total of the creditable compensation on which members' contributions are based.

plus

0.25 percent of the total creditable compensation on which members' contributions are based to pay costs for unused sick leave service credit.

State Contribution: Commencing July 1, 1999, 3.102 percent of the total of the creditable compensation of the immediately preceding calendar year upon which members' contributions are based calculated annually on October 1, paid in four equal quarterly payments. Used to fund certain benefit enhancements effective January 1, 1999.

plus

Commencing October 1, 1998, 0.524 percent adjustable annually in 0.25 percent increments up to a maximum of 1.505 percent, of the total of the creditable compensation of the immediately preceding calendar year upon which members' contributions are based calculated annually on October 1, paid in four equal quarterly payments. This contribution is reduced to zero if there is no unfunded obligation or normal cost deficit for benefits in effect on July 1, 1990.

Actuary's Certification Letter

Watson Wyatt
Worldwide

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Telephone 818 906 2631
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November 5, 1999

Teachers' Retirement Board
California State Teachers' Retirement System

RE: California State Teachers' Retirement System Cash Balance Plan

Dear Members of the Board:

We have performed an actuarial valuation of the California State Teachers' Retirement System Cash Balance Plan as of June 30, 1998. The primary purpose of the valuation is to determine the adequacy of the current contribution rates through the measurement of the Gain and Loss Reserve, to describe the current financial condition of the Plan, and to analyze changes in the Plan's condition.

The Gain and Loss Reserve and the Unfunded Actuarial Accrued Liability illustrate the progress toward the realization of financing objectives. Based on the actuarial valuation as of June 30, 1998, and the merger of this Plan with the Defined Benefit Plan as of January 1, 1999. The Plan's Unfunded Actuarial Accrued Liability has been eliminated.

Actuarial valuations for this plan are performed annually. This valuation as of June 30, 1998 is the second valuation for this plan.

Information presented in the following supporting tables included in this Actuarial Section of the 1999 Comprehensive Annual Financial Report is based on information found in our June 30, 1998 actuarial valuation report:

– Post retirement mortality
– Probabilities of retirement
– Probabilities of withdrawal from active service
– Assumption for pay increases
– Economic assumptions
– Mortality assumptions
– Termination from disability
– Service retirement rates
– Disability rates
– Withdrawal rates
– Probability of refund
– Promotional salary increases
– Analysis of financial experience

In addition, data for the fiscal year ending June 30, 1998 presented in Schedule 1, and the summary of actuarial methods and assumptions in Schedule 2 of the Financial Section, are based on information found in our valuation report.

The valuation was based on financial and employee data received from the System. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and determined it sufficiently accurate for purposes of our calculations.

Actuarial methods and assumptions have been selected by the Teachers' Retirement Board. The Board has sole authority to determine the actuarial assumptions used for the Plan. In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation, and are internally consistent and reflect reasonable expectations. We also believe the assumptions and actuarial methods meet the requirements of Governmental Accounting Standards Board Statement No. 25. Note that the results of future valuations will differ from the June 30, 1998 results to the extent that actual experience differs from that projected by the assumptions.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board of the American Academy of Actuaries.

The undersigned are independent actuaries. Both are Fellows of the Society of Actuaries, Enrolled Actuaries, and Members of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems.

Respectfully submitted,

W. Michael Carter

W. Michael Carter, FSA, EA, MAAA
Vice President

Gene Wickes, FSA, EA, MAAA
Consulting Actuary

Summary of Actuarial Assumptions and Methods

CalSTRS, through its consulting actuary, will perform an experience study at least every four years to determine appropriate demographic and economic assumptions. These assumptions are then applied every year when the consulting actuary performs an actuarial valuation to monitor the funding status of the Cash Balance Benefit Program. The most recent actuarial valuation was completed as of June 30, 1998, and adopted by the Teachers' Retirement Board November 5, 1998.

The Cash Balance Benefit Program was established July 1, 1996 and, therefore, has not yet existed for a sufficient period of time to allow completion of the first experience study. For this reason, it was necessary for the actuary to provide recommended economic and demographic assumptions that were based on those used by the Defined Benefit Program and the actuary's best judgement based on the actuary's experience with similar plans. These recommendations were adopted by the Teachers' Retirement Board on November 6, 1997, and were used to complete the latest actuarial valuation which was completed as of June 30, 1998. Following are the assumptions adopted by the Teachers' Retirement Board for this program.

- Investment return rate is 6.50 percent.
- Method used to value plan assets for actuarial valuation purposes: The actuarial value of assets is equal to the net assets available for benefits. This is the same as market value of assets less payables as reflected in the financial statements.

Table 1 **Post-retirement mortality table for sample ages**

Age	Male	Female
50	0.28 %	0.15 %
55	0.48	0.23
60	0.71	0.38
65	1.11	0.64
70	1.98	1.09
75	3.34	2.11
80	5.48	3.85
85	8.93	6.38
90	13.39	10.14
95	19.05	16.51
	1983 GAM (-3)	**1983 GAM (-1)**

Table 2 **Probabilities of retirement for sample ages**

Age	Male	Female
55	6.3 %	6.8 %
60	26.1	19.8
65	28.3	24.6
70	100.0	100.0

Table 3 **Probabilities of withdrawal from active service before age and service retirement for sample ages** (assumption for the CB Benefit Program is 125% of the rates shown in this table)

	All	Entry Ages-Female			
Duration	Males	27	32	37	42
1	14.8 %	14.8 %	14.8 %	14.8 %	14.8 %
2	8.8	8.8	8.6	7.7	6.6
3	6.8	7.7	6.8	5.4	5.1
4	5.8	6.8	5.8	4.4	4.3
5	5.0	5.9	5.0	3.8	3.6
10	2.5	2.5	2.2	1.9	1.6
15	1.3	1.2	1.2	1.2	
20	0.8	0.9	0.9		
25	0.5	0.8			

Table 4 **Assumption for pay increases due to promotions and longevity for sample ages** (exclusive of the assumed general wage increase, which includes inflation)

	Entry Ages			
Duration	27	32	37	42
Male				
1	8.0 %	9.5 %	9.8 %	8.9 %
10	3.6	2.6	1.9	2.0
20	1.1	0.7	0.7	0.4
30	0.7	0.6	0.7	0.4
Female				
1	7.2 %	7.7 %	8.5 %	5.4 %
10	3.1	2.5	2.7	2.6
20	0.7	0.6	0.9	1.0
30	0.3	0.4	0.5	0.6

Table 5 **Economic assumptions**

Consumer Price Inflation	4.50 %
Investment Yield	7.00
Wage Inflation	5.50
Interest on Participant Accounts	7.00

Table 6 **Mortality assumptions**

Retired	-Male	1983 GAM-M (-3)
Members	-Female	1983 GAM-F (-1)
Active	-Male	1983 GAM-M (-5)
Members	-Female	1983 GAM-F (-3)
Beneficiaries	-Male	1983 GAM-M (-3)
	-Female	1983 GAM-F (-1)

Table 7 **Termination from disability**

Male	1983 GAM-M (Minimum 3.5%)
Female	1983 GAM-F (Minimum 2.2%)

Table 8 **Service retirement** (sample ages)

Male	
55	6.3 %
60	26.1
65	28.3
70	100.0
Female	
55	6.8 %
60	19.8
65	24.6
70	100.0

- Assumption for general wage increase because of inflation is 5.5 percent, of which 4.5 percent is due to inflation and 1.0 percent is due to expected gains in productivity.
- The actuarial cost method used by the program is the traditional unit credit cost method.
- The Cash Balance Benefit Program does not provide cost-of-living adjustments for benefit recipients.
- Because this is a relatively new program, sufficient information is not yet available to allow a study of the program's actual experience. Initial experience for this program was developed using the experience of the Defined Benefit Program and the judgment and expertise of the qualified consulting actuary. The assumptions recommended by the actuary were adopted by the Teachers' Retirement Board November 6, 1997, and used to develop subsequent actuarial valuations.

Discussion of recent changes in:

The nature of the program—The Cash Balance Benefit Program is a relatively new plan, established July 1, 1996. All provisions of the program were considered when completing the most recent actuarial valuation.

Table 9 **Disability rates** (sample ages)

	Entry Ages		
Age	**<37**	**42**	**47**
Male			
25	0.02 %		
30	0.07		
35	0.12		
40	0.13		
45	0.16	0.23 %	
50	0.20	0.36	0.49 %
55	0.27	0.46	0.80
Female			
25	0.03 %		
30	0.03		
35	0.05		
40	0.09		
45	0.14	0.23 %	
50	0.23	0.36	0.40 %
55	0.32	0.46	0.60

Actuarial assumptions—The following assumptions were used to complete the valuation for this program.

The economic assumptions for the actuarial valuation as of June 30, 1998, did not affect the unfunded actuarial obligation. The economic assumptions for this program will have minimal impact under the traditional unit credit cost method or only have significance when participants elect to annuitize the account balance. Under the program, a participant must have at least $3,500 in his or her account to elect to annuitize the account balance.

Table 10 **Withdrawal rates** (rates of termination by sample durations of membership and sample entry ages. Assumption is 125% of the rates shown.)

Duration	All Males	Sample Entry Ages-Female 27	32	37	42
1	14.8 %	14.8 %	14.8 %	14.8 %	14.8 %
2	8.8	8.8	8.6	7.7	6.6
3	6.8	7.7	6.8	5.4	5.1
4	5.8	6.8	5.8	4.4	4.3
5	5.0	5.9	5.0	3.8	3.6
10	2.5	2.5	2.2	1.9	1.6
15	1.3	1.2	1.2	1.2	
20	0.8	0.9	0.9		
25	0.5	0.8			

Table 11 **Profitability of refund**

Duration	Sample Entry Ages 27	32	37	42
Male				
Under 5	100 %	100 %	100 %	100 %
10	60	50	50	45
15	50	45	45	
20	40	40		
25	30			
Female				
Under 5	100 %	100 %	100 %	100 %
10	40	40	40	35
15	35	35	35	
20	30	25		
25	20			

Future service credits are determined by using individual records and projecting future service credits for each member based on that member's actual service credit earned in the prior year.

The demographic assumptions for the actuarial valuation as of June 30, 1998, did not affect the unfunded actuarial obligation. The demographic assumptions for this plan will have minimal impact under the traditional unit credit cost method or only have significance when participants elect to annuitize the account balance. Under the plan, a participant must have at least $3,500 in his or her account to elect to annuitize the account balance.

Actuarial methods

Actuarial Cost Method	Traditional Unit Credit
Asset Valuation Method	Equal to the net assets available for benefits

The actuarial methods used for the program's actuarial valuation as of June 30, 1998, result in an unfunded actuarial accrued liability of $937,705 for the program. This deficit is primarily due to a $1.3 million loan (including interest) from the Teachers' Retirement Fund to assist with initial program expenses. Legislation (Chapter 1048, Statutes of 1998) merged the Cash Balance and Defined Benefit plans into two different programs within a single plan, which will discharge this loan and divide administrative expenses proportionally according to the assets of the two programs. This action

Table 12 **Promotional salary increases** (assumption for salaries due to promotions and longevity, exclusive of the assumed general wage increase)

Duration	Entry Ages 27	32	37	42
Male				
1	8.0 %	9.5 %	9.8 %	8.9 %
10	3.6	2.6	1.9	2.0
20	1.1	0.7	0.7	0.4
30	0.7	0.6	0.7	0.4
Female				
1	7.2 %	7.7 %	8.5 %	5.4 %
10	3.1	2.5	2.7	2.6
20	0.7	0.6	0.9	1.0
30	0.3	0.4	0.5	0.6

Table 13 Schedule of active member valuation data

Date (As of June 30)	Number	Annual Payroll	Annual Average Pay	% Increase In Average Pay
1996	Plan established July 1, 1996			
1997	1,057	$2,109,000	$4,261	na
1998	3,505	$18,832,000	$5,375	26.1%
1999	Information not available for this CAFR			

Table 14 Schedule of retired members and beneficiaries added to and removed from rolls

	Added to Rolls		Removed from Rolls		Rolls–End of Year			
Date (as of June 30)	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
1996	Plan established July 1, 1996							
1997	0	$0	0	$0	0	$0	na	na
1998	0	0	0	0	0	0	na	na
1999	Information not available for this CAFR							

Table 15 Solvency test

	Aggregate Accrued Liabilities For				Funding of Liabilities		
Valuation Date (as of June 30)	(1) Active Member Contributions On Deposit	(2) Future Benefits to Benefit Recipients	(3) Service Already Rendered by Active Members	Actuarial Value of Assets	(1)	(2)	(3)
1996	Plan established July 1, 1996						
1997	$164,078	$0	$0	$(393,000)	-240.0%	na	na
1998	$1,727,705	$0	$0	$2,083,000	120.6%	na	na
1999	Information not available for this CAFR						

Table 16 Analysis of financial experience

	Actuarial Valuation as of June 30 1998	1997
Actuarial Accrued Liability	$1,727,705	$164,078
Actuarial Value of Assets (1)	790,000	(393,000)
Unfunded Actuarial Accrued Liability (UAAL)	$ 937,705	$557,078
Funded Ratio	46%	(240%)

(1) Reflects a $1, 293,000 loan from the Teacher's Retirement Fund that was discharged subsequent to the June 30, 1998 actuarial valuation. The result of the loan discharge provided a UAAL of ($355,295) and a funded ratio of 121 percent. The loan discharge was effective January 1, 1999.

will eliminate the previously identified unfunded liability.

CalSTRS contracts for all actuarial services. The current contractor, Watson Wyatt Worldwide, has been CalSTRS' actuary since October 1, 1997. This firm completed the first actuarial valuation for the Cash Balance Plan, as it was called then, as of June 30, 1997, as well as the valuation as of June 30, 1998.

There are no other specific assumptions that have a material impact on valuation results for this program.

Independent actuarial review

Actuarial services for the State Teachers' Retirement System are provided, under contract, by a qualified independent actuarial firm. CalSTRS does not retain an actuary on-staff.

The work performed for CalSTRS by the independent actuarial firm is subject to periodic audit by the Bureau of State Audits. Also, through the competitive acquisition process, the work of a prior actuary will be verified in a subsequent actuarial valuation performed by a new contract actuary. Should the same actuarial firm continue for a period of 10 years, provision is made for an independent review of that firm's work through an actuarial audit completed by another firm. These audit services are acquired using the competitive acquisition process.

Past actuarial work performed for CalSTRS has been found to be in compliance with actuarial standards of practice and to be of the highest quality.

The current actuarial consultant was retained on October 1, 1997 as a result of the competitive acquisition process. The first major task for the new consultant was to complete the program's first actuarial valuation, which was done as of June 30, 1997.

Summary of Cash Balance Benefit Program Provisions

(considered in the June 30, 1998 actuarial valuation)

Description of Program

The Cash Balance Benefit Program is considered a defined benefit plan under the requirements of the Internal Revenue Code. It is optional to school districts, community college districts or county offices of education as an alternative retirement plan. The CB Benefit Program is a primary retirement program for employees of California's public schools who are hired to perform creditable service for less than 50 percent of the full-time equivalent for the position.

Plan Eligibility Requirements

Employers may offer the program to eligible employees. Employers must, through formal school board action, offer this program exclusively, or in addition to other alternative plans, and/or Social Security.

When an employer first elects to offer the program, employees employed to perform creditable service, and whose basis of employment (employee's formal contract) is less than 50 percent of the full-time equivalent for the position, become participants on the later of: (1) the first day in which creditable service is performed or (2) the effective date of the employer's governing board's action to provide the CB Benefit Program.

Elections

Employees have the right to elect coverage under either Social Security or an alternative plan in lieu of the CB Benefit Program if the employer's governing board's action provides for these options.

An election to participate in either Social Security or an alternative plan does not prevent an employee from electing to participate in the CB Benefit Program at a later date, as long as the CB Benefit Program is provided by the employer and the employee is eligible to participate in the program.

Discontinued eligibility

Employees shall cease contributing to the CB Benefit Program and become mandatory members of the CalSTRS Defined Benefit Program when the basis of employment (formal contract) changes to 50 percent or more of full-time for the position, OR upon election to the CalSTRS DB Program, which may occur at any time.

Contributions
Each employer contributes a minimum of 4 percent of salary on behalf of each participating employee. Through the collective bargaining process, employers are permitted to pay different levels of employee and employer contributions, as long as the following conditions are met:

1) The sum of the employee and employer contributions equals or exceeds 8 percent of employee salary.
2) The employee and employer contribution rates are the same for each participant employed by the employer.
3) The contribution rates as determined under the collective bargaining agreement become effective on the first day of the program year and remain in effect for at least one program year.

Vesting
A participant has an immediate vested right to a retirement benefit equal to the sum of the balance of contributions, including any compounded interest earned on his or her employee and employer accounts.

Guaranteed Interest Rate
The CB Benefit Program has a guaranteed interest rate that is determined annually by the Teachers' Retirement Board. The rate is based on the average of thirty-year U.S. Treasury notes for the 12 months immediately preceding the program year (May–April).

Program Investments
The CB Benefit Program is a separate benefit structure within CalSTRS. CB Benefit Program contributions are invested at the direction of the board in internally pooled portfolios of the Teachers' Retirement Fund. The program has ownership of units of these pooled portfolios, which reflect market fluctuations of underlying securities on a daily basis. Units are purchased using the current market value per unit. Unitized funds are accounted for on a multiple class level, which entails the sharing of one portfolio by two or more owners. Income and portfolio level expenses are distributed to each class level on a pro rata basis determined by the amount of units owned as a percentage of the total units of the portfolio.

Gain and Loss Reserve
Funds accumulate in a gain and loss reserve to credit interest to participants' employee and employer accounts during years when the rate of return on investments is less than the guaranteed interest rate. Annual additions to the reserve are determined by the board on earnings in excess of those needed to credit the guaranteed interest rate and pay administrative costs. The gain and loss reserve will also be used to ensure adequate funds are available in the annuitant reserve for monthly annuity payments.

Additional Earnings Credit
After the end of the program year, when the total investment earnings for the immediately preceding program year are known, the board may declare an additional earnings credit. Any additional earnings credit will be applied to participants' employee and employer accounts.

Retirement Eligibility
Normal retirement age is 60, but no earlier than age 55 years. A participant must terminate all creditable service in the CB Benefit Program and apply for a retirement benefit. Distribution of a retirement benefit must begin by age 70 1/2, unless still working.

Retirement Benefit
Normal retirement benefit is a lump-sum benefit equal to the balance of credits in participant's employee and employer accounts. All the lump-sum payment may be eligible to roll over into an IRA, defined contribution plan or other eligible retirement plan that accepts such a rollover.

or

Participant may choose one of the following five annuities, if participant's balance is $3,500 or more: a single life annuity with a cash refund feature, a single life annuity without a cash refund feature, a 100 percent joint and survivor annuity, a 50 percent joint and survivor annuity, and a period-certain annuity.

Disability Eligibility
A participant may apply for disability at any time. All creditable service subject to coverage by the CB Benefit Program must be terminated prior to the disability date. A disability benefit will become payable only upon determination by the board that the participant has a total and permanent disability.

Disability Benefit

Normal distribution is a lump-sum benefit. The benefit amount is equal to the balance of contributions, interest and additional credits in participant's employee and employer accounts. There is also an annuity available in the same five retirement benefit options as long as participant's account balance is $3,500 or more.

Death Benefit

Death of Participant Prior to Retirement

Normal distribution is a lump-sum benefit. The sum of the balance of credits of the participant's employee and employer accounts is payable to the named beneficiary. If no valid beneficiary is designated, the lump-sum payment will be paid to the participant's estate.

Surviving Spouse

If a participant's surviving spouse is the only beneficiary to whom a death benefit is payable, the spouse may elect to receive the benefit in the form of an annuity, provided the sum of the balance of credits to the participant's employee and employer accounts equals or exceeds $3,500. The surviving spouse may elect either a single life annuity without a cash refund feature or a period-certain annuity.

Death of Participant Receiving Annuity

Benefit payable in accordance with form of annuity elected by participant.

Termination Benefit (Refunds)

Upon termination of all creditable service subject to coverage by the program, for any reason other than death, disability or retirement, a participant may apply for a lump-sum termination benefit. The benefit amount is equal to the sum of the employee and employer accounts, plus compounded interest as of the date the benefit is paid.

Five-Year Rule

A participant may not apply for a termination benefit if less than five years has elapsed following the date the most recent termination benefit was distributed to the participant.

Waiting Period

The termination benefit is payable after one year has elapsed following the date of termination of employment. The application for the termination benefit will be automatically canceled if the participant performs creditable service within one year following the date of termination of employment.

Changes in Program Provisions

There have been no program amendments that would affect an actuarial valuation of CalSTRS since the last annual financial report was issued. All program provisions were considered in the completion of the June 30, 1998 actuarial valuation.